Statewide GIS Base Mapping Program
Ortho Update Pilot:
Frequently Asked Questions

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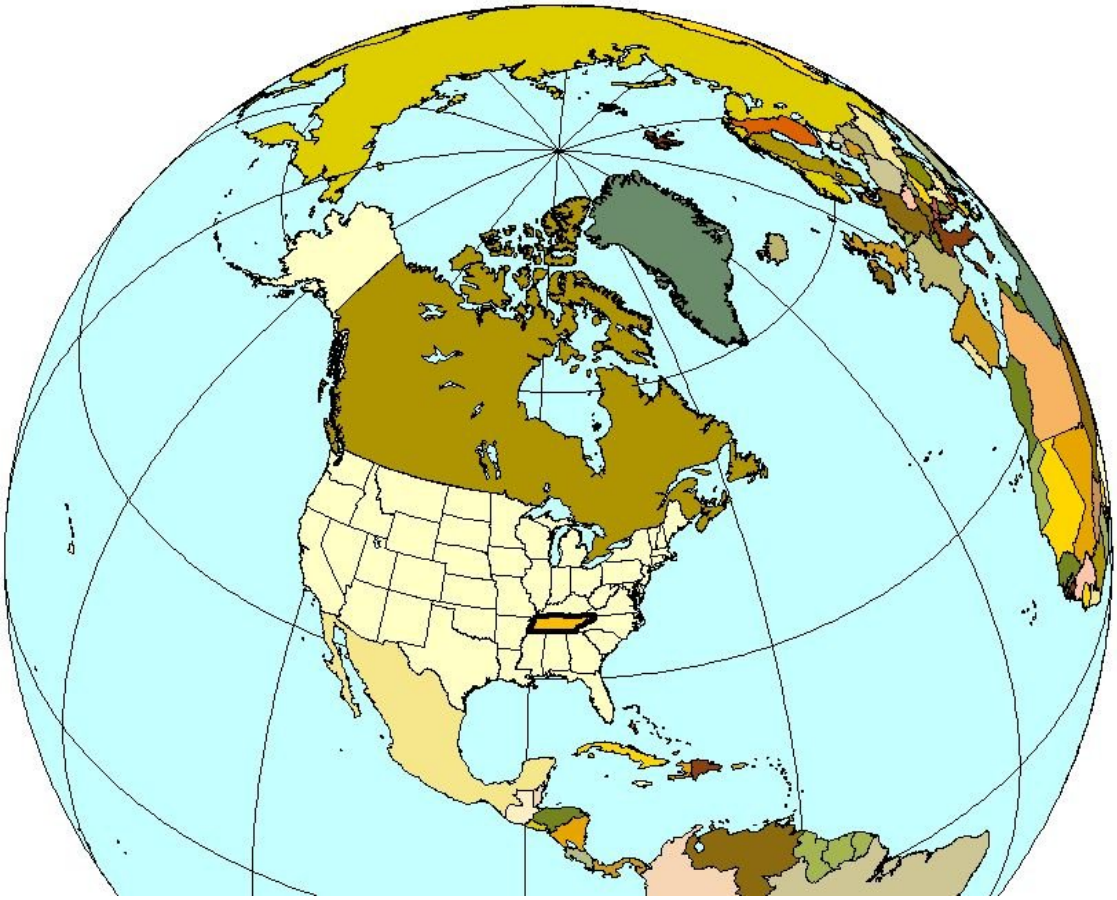

What is the purpose of the Base Mapping Program and what does it consist of?

The purpose of the Statewide GIS Base Mapping Program is to produce a comprehensive digital basemap suitable for inclusion in Geographic Information Systems (GIS). The basemap consists of Digital Ortho Imagery, digital parcel database, and other planimetric layers. Initial statewide production is set for completion in spring 2007.

What is a digital ortho image?

A digital ortho is an aerial photograph that has been processed to correct for scale variations and image displacement resulting from relief or terrain variations and camera tilt such that positions of objects appearing on the image are represented in their true position (coordinate).

What is the purpose of the ortho update pilot program?

Now that the initial statewide production is complete, the purpose of the ortho update pilot program is to determine the most cost effective and efficient long term solution for ortho imagery that meets the needs for State and local governments and reduces or eliminates duplication of effort.

What is the schedule for the ortho update pilot program?

The State is planning to test a set of revised imagery specifications through acquisition of new ortho imagery in spring 2007 and 2008.

Who will be participating in the ortho update pilot program?

Based on funding limitations and contractual constraints, the ortho update will be limited to selected Tennessee counties that have significantly outdated imagery that are also experiencing significant population growth.

How is the State going to pay for the program?

The original Business Plan developed for the Base Mapping Program calls for a unique partnership between the State of Tennessee, and Local Governments. The ortho update pilot program will use this partnership model where 75% will come from the State government and 25% from Local government.

What are the differences between the old and new imagery specifications?

The old specifications called for imagery captured at both 1"=400' in the rural areas and 1"=100' in the urban/suburban areas of the State. The new specifications calls for imagery captured at 1"=200' countywide. Also, the new imagery will be collected using digital sensors capable of delivering color imagery with a 1 foot pixel resolution. See Table 1 for more details.

What is the accuracy of these data layers?

The ortho imagery have a horizontal accuracy of $\pm$ 2 pixels (2 feet @ 1"=200') on all check points taken on clearly defined image detail. The mismatch between two adjoining orthophoto sheet edges shall not exceed five (5) pixels. Ninety percent of the well-defined points shall fall within 4 feet at 1"=200'.

What other data products besides imagery are available?

The ortho imagery is the standard product associated with the pilot program. However, local governments have the option of procuring additional value added data products including, building footprints, high accuracy elevation models, and contours. It is expected that local governments cover 100% of the costs associated with these value added products.

Will the State use the existing Digital Terrain Model (DTM) created from the original statewide production effort in the ortho pilot program?

Yes. The original standard DTM is suitable for ortho rectification associated with the pilot program. The contractor will create supplemental mass points of elevation where surface changes have occurred. Local governments can purchase a high accuracy elevation model that is suitable for a 5 foot contour.

What if my county has an existing high accuracy digital terrain model? How will this impact the creation of contours from new ortho imagery?

The original high accuracy DTM is suitable for creation of 2' and 10' contours in the 1"=100' and 1"=400' areas respectively. These specifications meet ASPRS class 1 standards, the highest vertical standard. The contractor will use an existing high accuracy DTM where applicable and add supplemental mass points to account for surface changes. The new DTM will remain suitable for creation of 2' and 10' contours, but in areas that have changed the DTM will meet ASPRS class II accuracy standards.

What are the differences between building footprints captured at 1"= 100' vs. 1"=400'?

The minimum structure that is to be collected from the 1"=400' source photography shall be 100 feet on a side. The minimum structure that is to be collected from the 1"=100' source photography shall be 30 feet on a side.

What is the layout of these data products?

In the 1960's and 70's, the Comptroller of the Treasury created parcel maps for the entire State in a common index scheme. Part of this process involved creating indexes of parcel maps on a county-by-county basis. These county indexes will be used as the layout for the creation of the digital imagery.

Although the imagery is captured at 1"=200', the contractor will deliver a single image mosaic (four images for each 1"=400' index tile) covering an area equal to 14,000 feet by 8,000 feet.

What is the data format that the State will use?

The imagery will be delivered in two formats. The imagery delivered for each 1"=400' tile will be delivered in .tiff format. The contractor will also deliver a countywide MrSID mosaic.

Table 1. Comparison of Ortho Imagery Specifications

Specifications Comparison Chart	Original TNBMP Ortho Specs	Revised TNBMP Ortho Pilot Specs
Photography	**B/W Panchromatic Film**	**Digital Color**
Scale	**1" = 400' county wide** **1" = 100' selected urban area**	**1" = 200'** **(Mosaicked to 400' index tile sheet)**
Resolution	**2' county wide** **6" in selected urban area**	**1' county wide**
Geographic Extent	**Entire State**	**Selected TN Counties**
DTM	**Mass Points/Breaklines**	**Mass Points/Breaklines w/ supplemental data**

Where can I go to get more information?

If you have access to the World Wide Web, the Office for Information Resources home page is http://gis.state.tn.us

Dennis T. Pedersen
Director, Geographic Information Services
State of Tennessee, Department of Finance and Administration
Office for Information Resources
16th Floor, Tennessee Tower
312 8th Avenue North
Nashville, TN 37243-0288
(615)741-9356
(615)532-9867 – fax
email: dennis.Pedersen@state.tn.us